

EEE498 ENGINEERING DESIGN I

SPRING 2026

Course Description

EEE 498 Engineering Design I is a preliminary course for senior students as a preparation to EEE 499 Engineering Design II. EEE 498 is proposed with the purpose of providing students with necessary knowledge and skills for participating in and managing engineering design tasks and team projects.

Course content covers understanding engineering problems, fundamentals of engineering design, engineering design in electrical and electronics engineering, fundamentals of project management, design tools, ethics and safety in engineering design projects, written and oral communication in engineering design projects, design experience through team project.

Course Objectives

Main objectives of the course are to provide senior year students with,

1. The ability to understand, define, and analyse engineering problems,
2. Basic engineering design skills through project work and experience of collaboration in team projects,
3. Fundamental skills of project management, documentation and communication.

Important Dates

Week 0	Register for the course
Week 1	Submit "Project Group Request Form" (not compulsory)
Week 2	Follow announcements and find out who your project supervisor is
Week 2	Meet your supervisor in person, sign up for the design project, select/receive design project topic and relevant details
Week 1-14	Attend weekly lectures
Week 9	Midterm examination (tentative)
Week 14/15	Submit a project report * and give a presentation to your supervisor at the final meeting
Week 15/16	Final examination

**Project report must be written in the required format. A template is provided at the course website in docx.*

Course Assessment: Midterm exam 20%, Project report and presentation 30%, Final exam 50%.

Lecture Topics

- Introduction
- The Need for Engineering Design
- Engineering Design Principles
- Engineering Design in Electrical and Electronics Engineering
- Problem Formulation
- Project Planning
- Project Implementation
- Design Guidelines
- Design Implementation
- Ethics in Engineering Design and Team Projects
- Safety in Engineering Design and Team Projects
- Written Communication and Documentation of Projects
- Oral Communication of Projects

Lectures will be held on Thursdays at 13:30 (first ed) and 16:45 (second ed) in Rooms D6 and D1.

Main Text

DYM, Clive L., et al. Engineering Design: A Project-Based Introduction. 2009. Wiley ISBN: 978-1-118-32458-5

Reference Books

Wilcox, Alan D., et al. Engineering design for electrical engineers. Vol. 1., 1990. Prentice Hall 1990 0132781360

Hyman, B. Fundamentals of Engineering Design Prentice Hall 2003 13: 978-0-13-046712-6

Pahl, G., Beitz, W., Feldhusen, J., Grote, K.-H. Engineering Design A Systematic Approach Springer 2007 978-1-84628-319-2

Coordinator

Prof. TOLGAY KARA

Lecturers

Prof. ERGUN ERÇELEBİ	Dr. SERKAN ÖZBAY
Prof. NURAN DOĞRU	Dr. TANER İNCE
Prof. GÖLGE ÖGÜCÜ YETKİN	Dr. MAHMUT AYKAÇ
Prof. SEMA KAYHAN	Dr. MUSA BUTE
Prof. UĞUR CEM HASAR	Dr. SEYDİ KAÇMAZ
Prof. AHMET METE VURAL	Dr. MEHMET DEMİR
Prof. TOLGAY KARA	Dr. ALİ OSMAN ARSLAN
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Course Website: eee498.gantep.edu.tr